# TMR-IF130/IF230R

# SERVICE MANUAL

*AEP Model*
*UK Model*

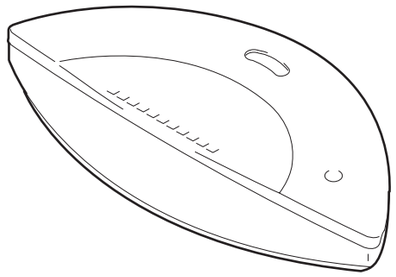


Illustration : TMR-IF230R

TMR-IF130 is the component model block one in MDR-IF130K.
TMR-IF230R is the component model block one in MDR-IF230RK.

**COMPONENT MODEL NAME FOR MDR-IF130K/IF230RK**

| | MDR-IF130K | MDR-IF230RK |
|---|---|---|
| Cordless Stereo Headphones | MDR-IF230 | MDR-IF230 |
| Transmitter | TMR-IF130 | TMR-IF230R |

## SPECIFICATIONS

**General**

| | |
|---|---|
| Modulation system | Frequency modulation |
| Carrier frequency | Right 2.8MHz<br>Left 2.3MHz |
| Frequency response | 18 – 22,000Hz |
| Power source | DC IN 9V jack accepts power supplied from the AC power adaptor for use on the following voltages: |

| | Operating voltage |
|---|---|
| UK model | 230 - 240V AC,50Hz |
| AEP model | 220 - 230V AC,50Hz |

| | |
|---|---|
| Audio input | Phono jacks/stereo mini jack |
| Dimensions | Approx. 152 x 40 x 72mm<br>(6 x 1 1/2 x 2 3/4in.) (w/h/d) |
| Mass | Approx. 85g (3.0oz.) |

Design and specifications are subject to change without notice.

## SECTION 1
## ELECTRICAL ADJUSTMENT

**NOTE :**

1. The adjustments should be performed in the order given.
2. The adjustments and measurements should be perfomed for both L-ch and R-ch unless otherwise indicated.
3. L-ch adjustment should be completed before performing R-ch adjustment.

**OSCILLATING FREQUENCY Adjustment**

**Procedure :**

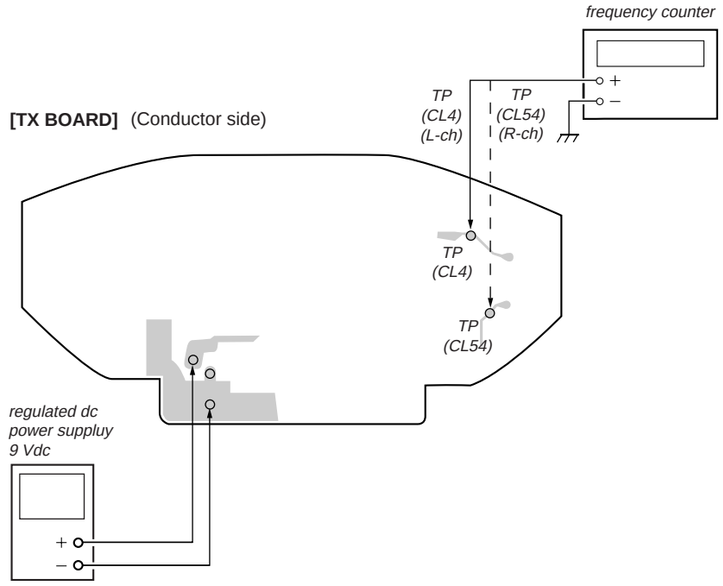
No signal state.

1. Connect the frequency counter to TP (CL4) (L-ch) and TP (CL-54) (R-ch).
2. Adjust with RV1 (L-ch) and RV2 (R-ch) so that the reading on the frequency counter becomes the specified value.

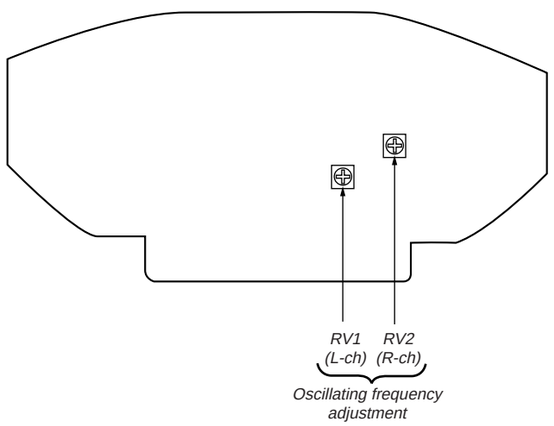
**Specified Value:**

| | | |
|---|---|---|
| L-ch | RV1 | 2.3MHz ±2kHz |
| R-ch | RV2 | 2.8MHz ±2kHz |

**Connection Points and Adjustments Location :**




**[TX BOARD]** (Component side)




INFRARED TRANSMITTER

SONY®

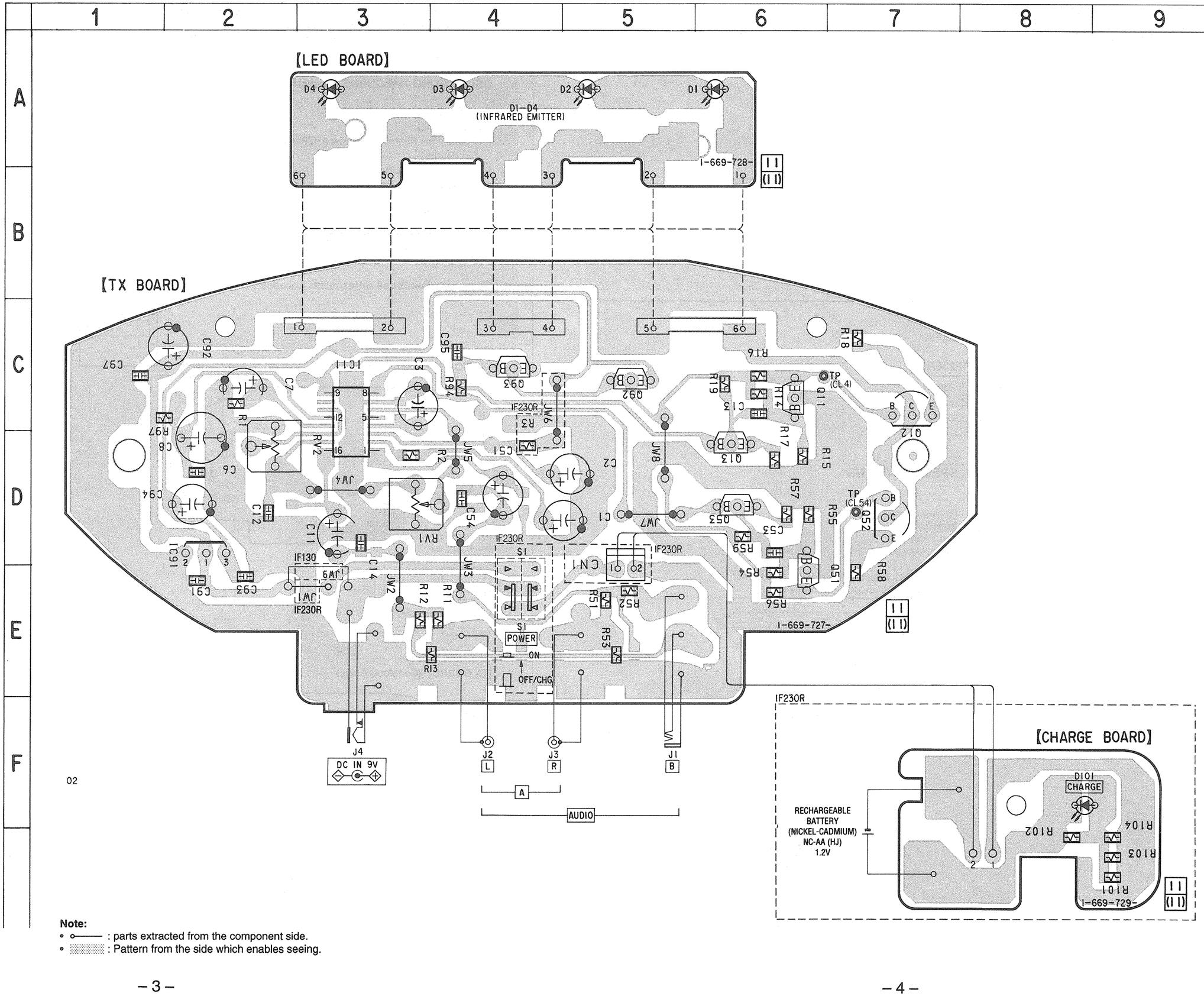
MICROFILM

# SECTION 2
# DIAGRAMS

## 2-1. PRINTED WIRING BOARDS

● **SEMICONDUCTOR LOCATION**

| Ref. No. | Location |
|---|---|
| D1 | A-6 |
| D2 | A-5 |
| D3 | A-4 |
| D4 | A-3 |
| D101 | F-8 |
| | |
| IC11 | C-3 |
| IC91 | D-2 |
| | |
| Q11 | C-6 |
| Q12 | C-7 |
| Q13 | D-6 |
| Q51 | E-6 |
| Q52 | D-7 |
| | |
| Q53 | D-6 |
| Q92 | C-5 |
| Q93 | C-4 |

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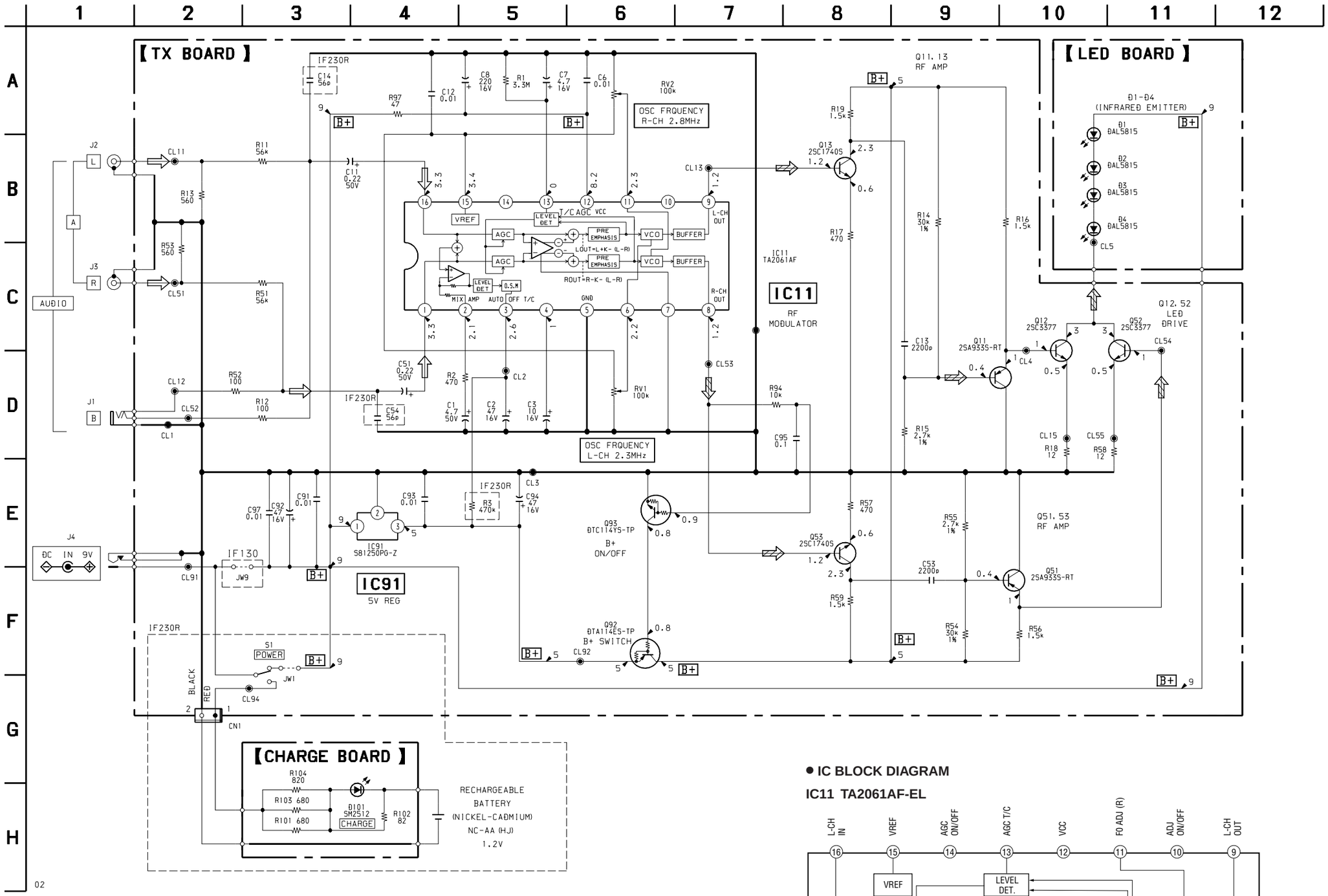
**Note:**
- ○——— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

## 2-2. SCHEMATIC DIAGRAM

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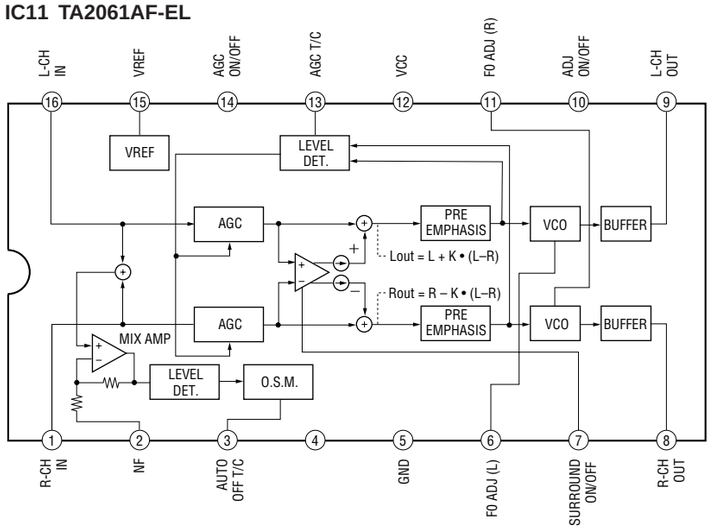
**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- ▭ : adjustment for repair.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack (J4).
- Voltages are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

- Signal path.
  ⇨ : AUDIO
  ⇛ : RF

### ● IC BLOCK DIAGRAM

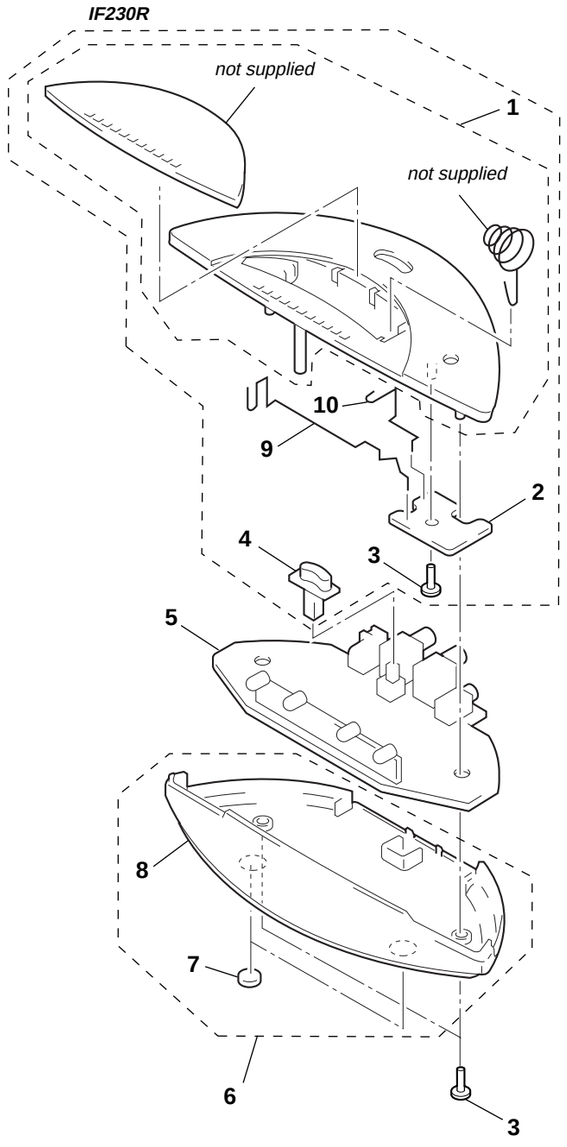
**IC11 TA2061AF-EL**

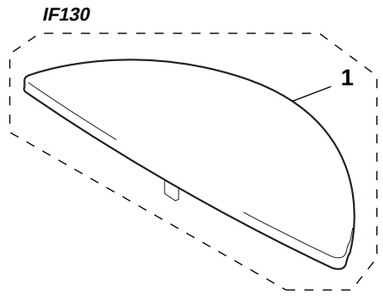


# SECTION 3
# EXPLODED VIEW

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 4-995-960-01 | CABINET (UPPER) (IF130) | |
| * 1 | X-4947-816-1 | CABINET (UPPER) ASSY (IF230R) | |
| * 2 | 1-669-729-11 | CHARGE BOARD (IF230R) | |
| 3 | 7-685-104-19 | SCREW +P 2X6 TYPE2 NON-SLIT | |
| 4 | 4-979-841-01 | COVER (SWITCH) (IF230R) | |
| * 5 | A-4542-502-A | TX BOARD, COMPLETE (IF130) | |
| * 5 | A-4542-505-A | TX BOARD, COMPLETE (IF230R) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 6 | X-4948-069-1 | CABINET (LOWER) ASSY (IF230R) | |
| * 6 | X-4949-960-1 | CABINET (LOWER) ASSY (IF130) | |
| 7 | 4-984-729-01 | FOOT, RUBBER | |
| 8 | 4-979-840-11 | CABINET (LOWER) (IF230R) | |
| 8 | 4-995-961-01 | CABINET (LOWER) (IF130) | |
| 9 | 4-987-261-01 | TERMINAL (+), BATTERY (IF230R) | |
| 10 | 4-900-350-01 | TERMINAL (CHARGE -) (IF230R) | |



CHARGE LED TX

# SECTION 4
# ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | 1-669-729-11 | CHARGE BOARD (IF230R) | | | |
| | | ********** | | | |
| | 4-900-350-01 | TERMINAL (CHARGE -) (IF230R) | | | |
| | 4-987-261-01 | TERMINAL (+), BATTERY (IF230R) | | | |
| | | < DIODE > | | | |
| D101 | 8-719-066-58 | LED SM2512 (CHARGE) (IF230R) | | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W (IF230R) |
| R102 | 1-216-023-00 | METAL CHIP | 82 | 5% | 1/10W (IF230R) |
| R103 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W (IF230R) |
| R104 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W (IF230R) |
| ********** | | | | | |
| * | 1-669-728-11 | LED BOARD | | | |
| | | ********* | | | |
| | | < DIODE > | | | |
| D1 | 8-719-992-13 | LED LIR5BE (INFRARED EMITTER) | | | |
| D2 | 8-719-992-13 | LED LIR5BE (INFRARED EMITTER) | | | |
| D3 | 8-719-992-13 | LED LIR5BE (INFRARED EMITTER) | | | |
| D4 | 8-719-992-13 | LED LIR5BE (INFRARED EMITTER) | | | |
| ********** | | | | | |
| * | A-4542-502-A | TX BOARD, COMPLETE (IF130) | | | |
| * | A-4542-505-A | TX BOARD, COMPLETE (IF230R) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C1 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C2 | 1-126-786-11 | ELECT | 47uF | 20% | 16V |
| C3 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C6 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C7 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C8 | 1-126-934-11 | ELECT | 220uF | 20% | 16V |
| C11 | 1-124-464-11 | ELECT | 0.22uF | 20% | 50V |
| C12 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C13 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C14 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C51 | 1-124-464-11 | ELECT | 0.22uF | 20% | 50V |
| C53 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C54 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V |
| C91 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C92 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C93 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C94 | 1-104-664-11 | ELECT | 47uF | 20% | 16V |
| C95 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C97 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | | 50V |
| | | < CONNECTOR > | | | |
| * CN1 | 1-506-984-11 | PIN, CONNECTOR (PC BOARD) 2P (IF230R) | | | |
| | | < IC > | | | |
| IC11 | 8-759-497-48 | IC TA2061AF-EL | | | |
| IC91 | 8-759-095-60 | IC S-81250PG | | | |
| | | < JACK > | | | |
| J1 | 1-764-270-11 | JACK,STEREO MINIATURE(DIA.3.5) (AUDIO IN B) | | | |
| J2 | 1-784-910-21 | JACK, PIN (AUDIO/IN A L-CH) | | | |
| J3 | 1-784-910-11 | JACK, PIN (AUDIO/IN A R-CH) | | | |
| J4 | 1-778-380-11 | JACK,DC(POLARITY UNIFIED TYPE) (DC IN 9V) | | | |
| | | < TRANSISTOR > | | | |
| Q11 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | |
| Q12 | 8-729-024-00 | TRANSISTOR 2SC3377-QR | | | |
| Q13 | 8-729-119-78 | TRANSISTOR 2SC403SP-51 | | | |
| Q51 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | |
| Q52 | 8-729-024-00 | TRANSISTOR 2SC3377-QR | | | |
| Q53 | 8-729-119-78 | TRANSISTOR 2SC403SP-51 | | | |
| Q92 | 8-729-422-57 | TRANSISTOR UN4111 | | | |
| Q93 | 8-729-029-72 | TRANSISTOR DTC114YS-TP | | | |
| | | < RESISTOR > | | | |
| R1 | 1-216-130-00 | RES,CHIP | 3.3M | 5% | 1/10W |
| R2 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R3 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W (IF230R) |
| R11 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R12 | 1-216-025-91 | METAL CHIP | 100 | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R13 | 1-216-043-91 | MET AL CHIP | 6.8K | 5% | 1/10W |
| R14 | 1-216-338-11 | RES,CHIP | 30K | 1% | 1/10W |
| R15 | 1-216-596-11 | RES,CHIP | 2.7K | 1% | 1/10W |
| R16 | 1-216-053-00 | MET AL CHIP | 1.5K | 5% | 1/10W |
| R17 | 1-216-041-00 | MET AL CHIP | 470 | 5% | 1/10W |
| R18 | 1-216-003-11 | RES,CHIP | 12 | 5% | 1/10W |
| R19 | 1-216-053-00 | MET AL CHIP | 1.5K | 5% | 1/10W |
| R51 | 1-216-091-00 | MET AL CHIP | 56K | 5% | 1/10W |
| R52 | 1-216-025-91 | MET AL CHIP | 100 | 5% | 1/10W |
| R53 | 1-216-043-91 | MET AL CHIP | 560 | 5% | 1/10W |
| R54 | 1-216-338-11 | RES,CHIP | 30K | 1% | 1/10W |
| R55 | 1-216-596-11 | RES,CHIP | 2.7K | 1% | 1/10W |
| R56 | 1-216-053-00 | MET AL CHIP | 1.5K | 5% | 1/10W |
| R57 | 1-216-041-00 | MET AL CHIP | 470 | 5% | 1/10W |
| R58 | 1-216-003-11 | RES,CHIP | 12 | 5% | 1/10W |
| R59 | 1-216-053-00 | MET AL CHIP | 1.5K | 5% | 1/10W |
| R94 | 1-216-073-00 | MET AL CHIP | 10K | 5% | 1/10W |
| R97 | 1-216-017-11 | RES,CHIP | 47 | 5% | 1/10W |
| | | < VARIABLE RESIST OR > | | | |
| RV1 | 1-241-767-21 | RES, ADJ, CARBON 100K (OSC FREQUENCY L-CH) | | | |
| RV2 | 1-241-767-21 | RES, ADJ, CARBON 100K (OSC FREQUENCY R-CH) | | | |
| | | < SWITCH > | | | |
| S1 | 1-554-419-00 | SWITCH, PUSH (1 KEY) (POWER) (IF230R) | | | |

9-923-357-11

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